

Helicopter AirTransport, Inc. (HAT)

**Helicopter AirTransport, Inc.**

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Kent, WA 98042  
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OFFICE OF HELICOPTER TRANSPORTATION

01 JAN 22 PM 4:44

January 11, 2001

Rule Docket (AGC-10)

Federal Aviation Administration  
800 Independence Ave, SW  
Washington, D.C. 20591

FAA-01-8740 - 1

Subject: Petition for Exemption from 133.45 (e)(1) of Title 14 CFR.

Dear Sir:

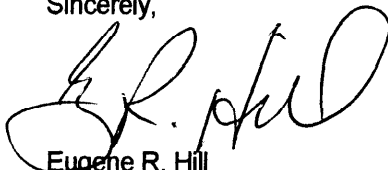
Helicopter AirTransport, Inc. (HAT) has enclosed a Petition for Exemption with supporting documents for your consideration. HAT has been in operation for 18 years and has extensive experience in helicopter operations.

We are basing our request upon:

1. Our belief that it is the public interest and that such operation can be conducted safely.
2. The requested exemption does not differ from those granted in exemptions 6400, 6740, 7118, and 7374.

We appreciate your consideration in this matter and are available at any time to answer any question that may arise.

Sincerely,



Eugene R. Hill  
Director of Operations

January 11, 2001

Rules Docket (AGC-10)

Federal Aviation Administration  
800 Independence Ave, SW  
Washington, D.C. 20591

Submitted By:

Hospital AirTransport, Inc. (dba)  
Helicopter AirTransport, Inc.  
15214 SE 300<sup>th</sup> St.  
Kent, WA 98042

Point of Contact:  
Eugene R. Hill, Director of Operations  
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Subject: Petition for Exemption under 14 CFR PART 11

1. **EXEMPTION SOUGHT:** HAT is seeking an exemption from 14 CFR Part 133.45 (e)(1) to permit for hire, the use of a helicopter certified in normal category under 14 CFR Part 27 in rotorcraft-load combination of Class D.
2. **AFFECTED AIRCRAFT:** This would affect Agusta A109E helicopters operated by Helicopter AirTransport, to be used in the transport of maritime pilots to and from ships in US ports.
3. **REASONS FOR USING THE A109E:** The A109E offers significant advantages over other available rotorcraft in conducting these types of operations. Including the advantages stated in other petitions granted (Exemption No.7374) regarding the A109K2 (same type certificate as the A109E) the A109E has the following advantages:
  - a. Significantly simplified rotor head, that reduces the amount of maintenance required, and significantly improved resistance to corrosion.
  - b. Addition of a single channel Full Digital Electronic Control (FADEC) system that significantly reduces pilot workload during One Engine Inoperative emergency's.
4. **IN THE PUBLIC INTEREST:** If granted, this exemption would serve the public interest both in improved safety of operations and improved maritime commerce as follows:
  - a. Sea, weather, and ship conditions can make boat-to-boat transfers of maritime pilots extremely hazardous. In some cases due to the design of newer ships it is almost physically impossible to conduct ship-to-ship transfers.
  - b. If the maritime pilot cannot be boarded by boat-to-boat transfer, for whatever reason, the ship is required to remain at anchor, or hold in a circling pattern offshore awaiting the pilot. This very situation has resulted in at least one publicized incident where a ship lost anchorage and ran aground. This resulted in significant environmental damage, and very high costs in salvage and reclamation by public agencies.

- c. Efficiencies provided by helicopter transfer can significantly reduce the amount of congestion at ports and thus limit the risk of vessels colliding.

**5. EQUIVALENT SAFETY TO TRANSPORT CATEGORY A AIRCRAFT:**

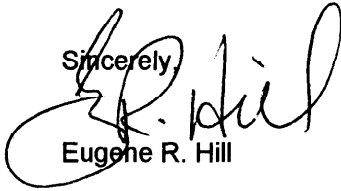
- a. Engine Isolation Certification (FAR Part 29.903(b)): In accordance with TCDS H7EU, Revision- 18 Dated- April 28, 2000 Page- 20, Note- 11, Certification Basis, the Agusta Model A109E, is eligible for operations on clear airfield and helipads with the critical engine failure concept when the helicopter is operated in accordance with the A109E Flight Manual Supplement 12 Equivalent Category "A" Operations.
- b. Weight and Balance and OEI Performance:
  - i. Each flight plan will be initiated with a weight and balance determination to ensure the ability of the aircraft to the flight and hoisting operation within the A109E RFM and applicable RFM Appendices limitations.
  - ii. Enclosed are the references to the A109E RFM, Sections 1- Limitations, 5 – Optional Equipment (applicable Appendices), and Section 9 – Supplemental Performance Information.
- c. Hoisting Operations (Class D):
  - i. The Agusta A109E is equipped with a RFM approved hoist.
  - ii. All hoisting operations will be conducted in accordance with the RFM Supplement- 24, entitled "External Hoist".
  - iii. Emergency procedures outlined in Supplement- 24 details emergency procedures for the following: Failure of both generators, Failure of one generator, and BUS Tie malfunctions. Current hoisting operations can be completed during any one of these electrical malfunctions.
  - iv. With the maximum hoist load (600 lbs.) applied and the hoist cable fully deployed (245 ft), the hoist in either over temperature, or system overload can be fully recovered in 2.5 minutes. High speed (Normal) hoist recovery can be accomplished in 1.5 minutes. In either case the hoist can be recovered within the 2.5-minute OEI (hover) engine rating.
  - v. All flight operations conducted during the hours of darkness are conducted with two pilots on board.
- d. Ground and Flight Crew Training:
  - i. All pilots and flight crewmembers authorized to operate the Agusta A109E in Class-D rotorcraft operations will be trained in accordance with HAT's Class D FAA approved training program.
  - ii. All personnel to be hoisted will be provided with equivalent training to ensure coordinated operations.

**6. REFERENCE TO SIMILAR GRANTED FAR PART 11 EXEMPTIONS:**

- a. Reference is made to Exemption No. 6400, issued Feb. 13, 1996 in which an exemption to the requirements of FAR Part 133.45(e)(1) was granted to Petroleum Helicopters, Inc. for use of the MDHC Model MD-900 rotorcraft, which is not type certificated under transport Category A in class-D rotorcraft load combination operations.

- b. Reference is made to Exemption No. 6740, in which an exemption to the requirements of FAR Part 133.45(e)(1) was granted to Rocky Mountain Holdings, LLC. for use of the Agusta A109K2 rotorcraft, which is not type certificated under transport Category A in class-D rotorcraft load combination operations.
  - c. Reference is made to Exemption No. 7118, issued Feb. 7, 2000 in which an exemption to the requirements of FAR Part 133.45(e)(1) was granted to IHC Health Services, Inc. for use of the Agusta Model A109K2 rotorcraft, which is not type certificated under transport Category A in class-D rotorcraft load combination operations.
  - d. Reference is made to Exemption No. 7374, issued Oct. 27, 2000 in which an exemption to the requirements of FAR Part 133.45(e)(1) was granted to Evergreen Helicopters, Inc. for use of the Agusta Model A109K2 rotorcraft, which is not type certificated under transport Category A in class-D rotorcraft load combination operations.
  - e. This request for exemption is predicated upon the same technical basis granted previously, with the exception of aircraft model.
7. SUMMARY: It is our belief that it is the public interest will be well served both by the economic, environmental and safety benefits provided by Maritime Pilot Transfer Services provided in the Agusta A109E model rotorcraft. Further an equivalent level of safety can be provided by the Agusta A109E rotorcraft.

Sincerely,



Eugene R. Hill

Enclosures:

- Agusta A109E RFM Section 1 Limitations page 1-3 – Optional Equipment.
- Agusta A109E RFM Section 5 Optional Equipment pages 5-1, and 5-2 – List of Optional Equipment.
- Agusta A109E RFM Section 9 Supplemental Performance page 9-22 – Hover ceiling – OGE – OEI – 2.5 minutes power.
- TCDS No. H7EU pages 1, 10, and 20.

## **OPTIONAL EQUIPMENT**

Refer to Section 5 and to pertinent Appendices for additional limitations, procedures and performance data with optional equipment installed.

## **FLIGHT CREW**

The minimum flight crew consists of one pilot who shall operate the helicopter from the right crew seat.

The left crew seat may be used for an additional pilot when the approved dual controls and copilot's instruments are installed.

## **NUMBER OF SEATS**

Eight (pilot included).

## **AIRSPEED LIMITATIONS (IAS)**

See Figure 1-1 for Airspeed limitations  $V_{NE}$  (Power on) and Figure 1-2 for Airspeed limitations  $V_{NE}$  (Power off).

Maximum landing gear operating speed $V_{LO}$	120 Kts.
Maximum landing gear extended speed $V_{LE}$	120 Kts.
Minimum airspeed in autorotation, without close external references	60 Kts.
Minimum IFR airspeed	50 Kts.
Minimum speed during IFR approach	55 Kts.

### **NOTE**

For the steepest demonstrated approach slope see "Approach Angle Vs Airspeed and Rate of Descent" of Section 2.

## **SECTION 5 OPTIONAL EQUIPMENT**

### **LIST OF APPENDICES**

<b>Appendix No.</b>	<b>Name of equipment</b>	<b>No.</b>
1	Rotor brake	109-0810-63
2	Engine compartment fire extinguishers	109-0811-39
3	Weather radar - RDR 2000 Bendix King	109-0811-47
4	Pulsed chip detector	109-0811-48
5	Environmental control system (air con- ditioning)	109-0811-43
6	Bleed-air heater	109-0811-38
7	Searchlight	109-0811-46
8	Supplementary fuel tanks	109-0811-49
9	"Green aircraft" configuration	—
10	EMS (emergency medical service)	109-0811-70
11	Sliding doors	109-0822-58
12	Equivalent category "A" operations	—

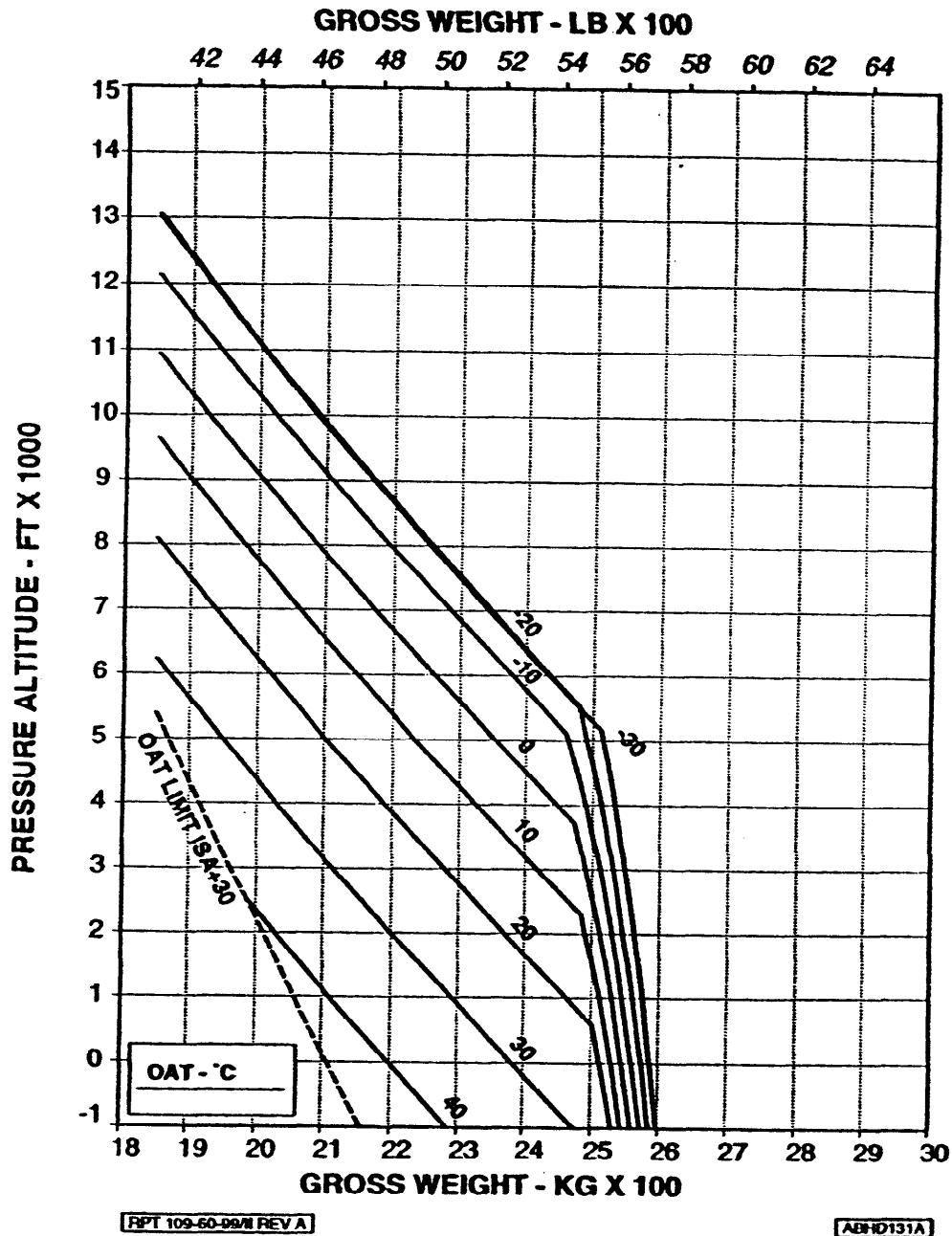
## List of Appendices (Contd.)

Appendix No.	Name of equipment	No.
13	Integrated display system configuration EDU P/N 109-0900-42-101 DAU P/N 109-0900-42-103	—
14	Battery 22 Ah	109-0812-04
15	EFIS (Electronic Flight Instrument System)	109-0900-57- -101/-103/-105 /-107
16	Global Position Sstem Garmin 165	109-0811-53
17	Nightsun searchlight SX-16	109-0811-33
18	Snow skid	109-0811-99
19	Global Position System Trimble 2101	109-0811-53 and 109-0822-91
20	Slump protection pads	109-0811-73
21	Emergency floats	109-0811-42
22	Wire strike protection system	109-0812-07
23	Equivalent category "A" operations training procedure	—
24	External hoist	109-0812-31
25	Skywatch Traffic Advisory System - SKY497	109-0812-39
26	Moving Map System -Skyforce Ob-server	109-0812-38
27	Satellite Telephone - AIRSAT1	109-0812-40
28	Particle Separator Engine Air Induction System	109-0811-55

**HOVERING CEILING OUT OF GROUND EFFECT  
ONE ENGINE INOPERATIVE - 2.5 MINUTES POWER**

ROTOR: 102 %  
ZERO WIND

ELECTRIC LOAD: 150 AMPS TOTAL



**Figure 9-20. Hovering ceiling - OGE - OEI - 2.5 minutes power.**



H7EU  
Revision 18

AGUSTA  
Model A109  
Model A109A  
Model A109A II  
Model A109C  
Model A109K2  
Model A109E  
Model A119

April 28, 2000

This data sheet which is part of Type Certificate No. H7EU prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type certificate Holder. AGUSTA S.p.A.  
Via Giovanni Agusta 520  
21017 Cascina Costa Samarate (VA)  
Italy

I. Model A109 (Normal Category Helicopter) approved June 1, 1975.

Engines. Two (2) Detroit Diesel Allison Division of General Motors Corporation Model 250-C20 turboshaft engines.

Bendix gas producer fuel control DP-N1.

Bendix power turbine governor AL-AA1.

**Fuel.** For all temperatures:

MIL-T-5624 grade JP4  
ASTM D-1655 Jet B

For temperature above  $-18^{\circ}\text{C}$  ( $0^{\circ}\text{F}$ ):

MIL-T-5624 grade JP-5  
ASTM D-1655 Jet A  
ASTM D-1655 Jet A1  
See Note 4

Maximum Passengers.

7: For aircraft conforming with Agusta Report 109-06-67  
1 at Sta. 1565 mm (62 in) to 1630 mm (64 in)  
*See NOTE 5.*  
3 at Sta. 2420 mm (95 in) Facing FWD or 3 at Sta. 2455 (97 in) Facing AFT  
3 at Sta. 3200 mm (126 in)

8: For aircraft in "green" delivery configuration conforming with Agusta  
Report 109-06-07. See Appendix 15 of required flight manual.

[illegible]

## VII. Model A119 (Normal Category Helicopter) (cont'd)

Maximum Baggage.	150 Kg (330 lb) at Sta 4,880 to 6,430mm (192 to 253 in) Maximum floor loading for baggage compartment: 500 Kg/m <sup>2</sup> (102 lb/ft <sup>2</sup> ). For loading instruction see the A119 Rotorcraft Flight Manual
Fuel Capacity.	Total Usable: 157 US Gal (595 lt) <i>See NOTE 1 for unusable fuel.</i>
Oil Capacity Engine	2.76 US Gal (10.45 lt) <i>See NOTE 1 for undrainable oil.</i>
Oil Capacity Transmission.	2.72 US Gal (10.3 lt) <i>See NOTE 1 for undrainable oil.</i>
Maximum Operating Altitude.	4,572 m (15,000 ft)
Rotor Blade Control Movements	For rigging information refer to the Model A119 Maintenance Manual.

## DATA PERTINENT TO ALL MODELS

Datum.	Longitudinal station 0 (datum) is 1835 mm (72 in) forward of the front jack point. For the A119, longitudinal station 0 (datum) is 1785 mm (70 in) forward of the front jack point.  Lateral station 0 (datum) is $\pm 450$ mm ( $\pm 18$ in) inboard of each main jack point and coincides with the rotorcraft longitudinal plane of symmetry.
Leveling Means. plate on floor of passenger cabin.	A109, A109A, A109AH, A109C, A109K2, A119 plumb line from ceiling reference point to index plate on floor of passenger cabin.  For A109E, the leveling is performed by a water level put on the datum plate located on the cabin roof, RH side.
Serial Numbers Eligible.	A Registro Aeronautico Italiano Certificate of Airworthiness for Export endorsed as noted under import requirements must be submitted for each individual rotorcraft for which application for certification is made. For A119 S/N 14001 and greater
Certification Basis.	FAR 21.29 and FAR Part 27 dated February 1, 1965, including Amendments 27-1 through 27-8.  FAR Part 29 dated February 1, 1965, para. 29.903(b), for Category "A" engine isolation.  Special Conditions for Agusta Model A109 helicopter No. 27-54-EU-17, issued on June 26, 1973. Equivalent safety in lieu of compliance shown for:  -FAR 27.1189, re shutoff means -FAR 27.1305(d), re fuel quantity indicator for A109A up to S/N 7165. -FAR 27.927(c) at amendment 27-12 elected by the applicant

NOTE 11. The model A109E is eligible for operations on clear airfield and helipad with the "Equivalent Category A" when the installation P/N 109-0811-39 (all the approved dashes) is incorporated and the helicopter is operated in accordance with the Model A109E Flight Manual Supplement No. 12 Equivalent Category "A" operations.

In addition to the paragraphs of the Certification Basis the A109E must comply also with the following paragraphs:

JAR 29.45 (a), (b), (2) Amendment base; JAR 29.49 (a) Amendment base; JAR 29.51 Amendment base; JAR 29.53 Amendment base; JAR 29.55 Amendment base; JAR 29.59 Amendment base; JAR 29.60 Amendment base; JAR 29.61 Amendment base; JAR 29.62 Amendment base; JAR 29.64 Amendment base; JAR 29.65 (a) Amendment base; JAR 29.67 (a) Amendment base; JAR 29.75 Amendment base; JAR 29.77 Amendment base; JAR 29.79 Amendment base; JAR 29.81 Amendment base; JAR 29.85 Amendment base; JAR 29.87 (a) Amendment base; (JAR 29.571 Amendment base Fatigue evaluation of structure.) AC Material only: AC 29-2A Item 230 Paragraph 10; JAR 29.861 (a) Amendment base; JAR 29.901 (c) Amendment base; JAR 29.903 (b), (c), (e) Amendment base; JAR 29.908 (a) Amendment base; JAR 29.927 (c)(1), JAR 29.953 (a) Amendment base; JAR 29.1027 (a) Amendment base; JAR 29.1045 (a)(1), (b), (c), (d), (f) Amendment base; JAR 29.1047 (a) Amendment base; JAR 29.1181 (a) Amendment base; JAR 29.1187 (e) Amendment base; JAR 29.1189 (c) Amendment base; JAR 29.1191 (a)(1) Amendment base; JAR 29.1193 (e) Amendment base; JAR 29.1195 (a), (d) Amendment base; JAR 29.1197 Amendment base; JAR 29.1199 Amendment base; JAR 29.1201 Amendment base; JAR 29.1305 (a)(6), (b) Amendment base; JAR 29.1309 (b)(2)(i), d) Amendment base; JAR 29.1323 (c) (1) Amendment base; JAR 29.1331 (b) Amendment base; JAR 29.1351 (d) (2) Amendment base; JAR 29.1587 (a) Amendment base.

The JAR requirements listed above meets the FAR Part 27 and FAR Part 29 CAT A. requirements.

NOTE 12. For the models A109K2 and A109E that has been certified with ditching provisions in accordance with RFM supplements n° 22 & 21 respectively the certification basis has been updated adding with the following paragraphs: FAR 27.563 Amendment 26, FAR 27.801 Amendment 11, FAR 27.807 Amendment 26, FAR 27.1411 Amendment 11, FAR 27.1415 Amendment 11.

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